ochreous yellow. Underside nearly wholly vinous red, mottled with dark grey, the yellow subapical costal patch of the fore wings only being represented.

Expanse of wings 18 millim.

One female from Borneo.

Endotricha flavifusalis, sp. n.

Fore wings bright pink, with a broad, pure yellow, central fascia, not separated from the pink by any definite lines; cell-spot small, dark; a faint wavy submarginal line just before the fringe; fringes entirely pink, except a short distance below the apex; costa with rather large yellow spots. Hind wings like fore wings, the yellow band broader and in the male running to the hind margin towards the inner angle. Underside like upper. Head, thorax, and abdomen pink, intermixed with yellow.

Expanse of wings 14 millim.

One male, one female, from Borneo.

VII.—*Revision of the Noctuid Moths in the Natural-History Museum hitherto referred to* Eriopus *and* Callopistria. By Arthur G. Butler, F.L.S., F.Z.S., &c.

[Plate IX.]

The genus *Callopistria* was founded by Hübner, in his 'Verzeichniss bekannter Schmetterlinge,' for the reception of two species, *C. pteridis* and *C. juventina*, from Europe and Surinam respectively. In all probability *C. juventina* was only known to Hübner, as it certainly was to Walker, from Cramer's figure; and therefore *C. pteridis* (placed by both of these authors at the head of the genus) becomes the type of *Callopistria*.

Eriopus, Treitschke, adopted by M. Guenée for the same group and considered by Walker to be synonymous with it, had for its type *E. pteridis*, and therefore is, without question, synonymous with *Callopistria*.

In the 'Proceedings of the Zoological Society,' 1881, Mr. F. Moore founds two genera—*Methorasa* for the reception of *Eriopus Latreillei*, Dup., and *Cotanda* for *Eriopus placodoides*, Guen.

A careful examination of structural characters reveals the fact that the genus *Callopistria* as extended by Walker and

subsequent authors contains no less than nine genera, distinguished as follows:—

1. Primaries with rounded outer margin.

a. Antennæ in both sexes simple, tapering; legs strongly tufted ..... *Methorasa.*

b. Antennæ of male strongly ciliated, with a well-defined almost central twist or kink; legs almost naked ..... *Gnamptocera.*

2. Primaries with angulated outer margin.

a. Antennæ slightly pubescent in the males, rarely with a few extremely delicate cilia towards the base; very slender in the females.

aa. Palpi small and weak, a single dorsal tuft on the second abdominal segment; first and second pairs of legs thickly clothed with long hair scales; tibiæ of hind pair clothed with fine hair ..... *Haploolophus.*

ab. Palpi large, with well-exposed terminal article; dorsal tufts, as usual, on first and second abdominal segments; legs, but especially the tibiæ of second pair, more densely hairy and tufted than in the preceding genus; a flattened fringe of dusky hair on femora of hind pair ..... *Dissolophus.*

ac. Palpi rather large, with exposed terminal article; dorsal tufts probably normal (imperfect in our specimens); all the legs, including the basal joint of the tarsus, densely hairy, the hind pair almost concealed by the long hairy clothing ..... *Hyperdasys.*

b. Antennæ slender, ciliated, and with the basal third to half abruptly thickened in the males; legs moderately hairy, the spur of the middle tibiæ fringed with long hair ..... *Hemipachycera.*

c. Antennæ of males slender, the basal two fifths usually naked, rarely pilose, always thickened, and terminating in a sloping fringed swollen bend, beyond which there is a well-defined ciliation; legs thickly clothed with long hair ..... *Callopistria.*

d. Antennæ of males much thicker, ciliated, the basal third to two fifths twice the thickness of the remainder, terminating in an enlarged acutely angular process, beyond which the ciliation is more pronounced; hairy clothing of legs very similar to that of *Hemipachycera.* *Cotanda.*

e. Antennæ of males with the basal two fifths thickened and strongly ciliated, especially at the thickest or distal portion, which is also serrated and emits a group of three long entangled clubbed hairs; femora of front and hind legs and all the tibiæ fringed with long dense hair ..... *Rhoptrotrichia.*

The admirable drawings of the structural characters occurring in this group, prepared by my friend Mr. Frohawk, have not only confirmed my decision as to the generic distinction of many of the species formerly associated under one, or latterly under four, genera, but in one or two instances they have revealed to me differences which I had overlooked when comparing one species with another. All the drawings are taken from male examples, as the most trenchant distinctive characters are found in that sex.

Should the structural differences upon which these genera are based be considered insufficient on the ground that they are secondary sexual characters, consistency will demand that at least half the genera already characterized in the order Lepidoptera shall be set aside.

The following are in the British-Museum collection:—

Methorasa, Moore.

Type *Methorasa Latreillei*. (Pl. IX. fig. 2.)

Eriopus Latreillei, Duponchel, Lép. Eur., Suppl. iv. p. 327, pl. cxxiii. fig. 2.

Europe and India. Coll. B. M.

Methorasa argentilinea.

Callopistria argentilinea, Walker, Lep. Het. xii. p. 863. n. 6 (1857).

United States. Type Coll. B. M.

Methorasa cordata.

Bombyx cordata, Ljung, Kongl. Vetenskaps-Akad. Handl. p. 347, pl. ii. figs. D 1, D 2 (1825).

West Indies. *Hab.* ——? Coll. B. M.

We had a specimen of this species without locality under *M. monetifera*; it differs from the latter chiefly in its much more rufous primaries and rufous-brown secondaries; the latter are described thus:—"posticis brunneis, immaculatis; margine pallido," the fringe being pale. All the specimens of *M. monetifera* which we possess have whitish secondaries suffused with bronzy greyish towards the outer margin; so that *M. cordata* is probably the West-Indian representative of *M. monetifera*. Should the latter prove to vary considerably in a large series so as to include the West-Indian form, the name *M. cordata* will have to supersede it.

Methorasa monetifera.

Eriopus monetifera, Guenée, Noct. ii. p. 294. n. 1098.

E. Florida, New York, &c. Coll. B. M.

The name *Herrichia*, which Grote proposed for the mixed assemblage under *Eriopus* of the United States, cannot be retained for any of the species, as it was used by Staudinger for a genus of Lepidoptera in 1870.

Herrich-Schäffer probably compared the New-World species with the type of *Callopistria*, and consequently came to the conclusion that they were more delicate than the European forms. *Haploolophus mollissimus* is so, but the others are no more slender in structure than *Methorasa Latreillei*. As regards his opinion that the American species are more nearly related to *Erastria* (*Eustrotia* of Grote's 'Check-list'), I hold that the Callopistriidæ are far more nearly related to that genus than to *Plusia*.

Gnamptocera, Butler.

Type *Gnamptocera minuta*. (Pl. IX. figs. 1, 1 *a*.)

Callopistria minuta, Butler, Ill. Typ. Lep. Het. vii. p. 7, pl. cxxx. fig. 4 (1889).

Dharmsala. Type Coll. B. M.

Gnamptocera minor.

Callopistria minor, Hampson, Ill. Typ. Lep. Het. viii. p. 81, pl. clxvi. figs. 16, 17 (1891).

Nilgiris. Type Coll B. M.

Haploolophus, Butler.

Type *Haploolophus mollissimus*. (Pl. IX. figs. 3, 3 *a*.)

Eriopus mollissima, Guenée, Noct. ii. p. 294. n. 1098.

East Florida, New York, &c. Type Coll. B. M.

Dissolophus, Butler.

Type *Dissolophus chloriza*.

Eriopus chloriza, Guenée, Noct. ii. p. 296. n. 1102.

Java. Type Coll. B. M.

Dissolophus aluensis, sp. n. (Pl. IX. fig. 4.)

♂. Nearest to *D. chloriza*, smaller; primaries golden argillaceous, with bands of a darker shade, the central belt more regular than usual, less constricted, with black-dotted darker edges bounded by silver lines, the discoidal markings represented by an oblique white omega; three black dots, bounded by a bisinuated white line, at base; a zigzag whitish submarginal streak from apex to near inner margin; a marginal series of black-dotted white spots; fringe tipped with silvery white and dotted with black: secondaries sericeous whity brown, greyish towards base, with a submarginal grey band; a dark grey discocellular crescent; two or three subapical black dots on outer margin; fringe tipped with silvery white: body golden argillaceous; collar with one or two black dots in the centre; abdomen darker than thorax. Primaries below greyish, the borders creamy white, a blackish diffused patch divided by the subcostal vein towards end of cell; a whitish-bordered transverse irregular line crossing the wing at external third; a black oblique diffused dash, interrupted by the usual pale costal dots, at apex; black dots on the fringe as above: secondaries creamy white; costal area irrorated with black scales; discocellulars and a denticulated line beyond the middle blackish; three or four black dots on outer margin: pectus cream-coloured; venter, legs, and outside of palpi ochraceous; the usual blackish tuft at base of hind legs.

Expanse of wings 23 millim.

Alu, Solomon Islands. Type Coll. B. M.

This is smaller than either of the other species of this genus.

Dissolophus repletus. (Pl. IX. fig. 5.)

Callopistria repleta, Walker, Cat. Lep. Het. xii. p. 865. n. 13 (1857).

North India, Dharmsala; Osaka, Japan. Type Coll. B. M.

Hyperdasys, Butler.

Type *Hyperdasys exotica*. (Pl. IX. fig. 6.)

Callopistria exotica, Guenée, Noct. ii. p. 294. n. 1097.

Java. Type Coll. B. M.

Hyperdasys insularis.

Callopistria insularis, Butler, Ann. & Mag. Nat. Hist. (5) x. p. 230 (1882).

Duke-of-York Island, Alu, Solomon group. Type Coll. B. M.

HEMIPACHYCERA, Butler.

Type *Hemipachycera rivularis.* (Pl. IX. fig. 7.)

Callopistria rivularis, Walker, Lep. Het. xii. p. 867. n. 15 (1857).

North India, Dharmsala. Type Coll. B. M.

Hemipachycera Yerburii.

Callopistria Yerburii, Butler, Proc. Zool. Soc. 1884, p. 496.

Aden and Nilgiris. Type Coll. B. M.

Hemipachycera duplicans.

Callopistria duplicans, Walker, Lep. Het. xii. p. 866. n. 14 (1857).

Moulmein and Silhet. Type Coll. B. M.

CALLOPISTRIA, Hübner.

Type *Callopistria purpureofasciata.* (Pl. IX. figs. 9, 9 *a*.)

Noctua purpureofasciata, Piller, Reise durch Posega, pl. vi. fig. 2 (1783), =*pteridis*, Fabr.

Europe. Coll. B. M.

Callopistria obscura.

Callopistria obscura, Butler, Ann. & Mag. Nat. Hist. (5) i. p. 200 (1878); Ill. Typ. Lep. Het. iii. p. 21, pl. xlvi. fig. 3 (1879).

Hakodate, Yokohama, Tokio, Shanghai. Type Coll. B. M.

Callopistria floridensis.

Eriopus floridensis, Guenée, Noct. ii. p. 292. n. 1094.

Florida and St. Domingo. Type Coll. B. M.

Cotanda, Moore.

Type *Cotanda placodoides*.

Eriopus placodoides, Guenée, Noct. ii. p. 296. n. 110 *b*.

Java and Nilgiris. Type Coll. B. M.

Cotanda æthiops.

Callopistria æthiops, Butler, Ann. & Mag. Nat. Hist. (5) i. p. 200 (1878); Ill. Typ. Lep. Het. iii. p. 21, pl. xlvi. fig. 4 (1879).

Japan and Nilgiris. Type Coll. B. M.

Cotanda duplicilinea.

Plusia duplicilinea, Walker, Journ. Linn. Soc. vii. p. 70.

Sarawak. Coll. B. M.

Cotanda indica, sp. n. (Pl. IX. figs. 8, 8 *a*, 8 *b*.)

Callopistria Yerburii, Butler, Ill. Typ. Lep. Het. vii. p. 12, Index (1889).

Very like *Hemipachycera Yerburii*, but differing in structure, in the presence of a pencil of long bristles at base of primaries, and a fringe of long hairs on inner margin near external angle, in its deeper coloration, in the outer margin of the central belt of primaries being much less sinuous, the discoidal markings more sharply defined in white and with a diffused ochreous patch below them; the vertex of the head whitish at the margins.

Expanse of wings 29 millim.

Dharmsala, Canara, and Sarawak. Type Coll. B. M.

Rhoptrotrichia, Butler.

Type *Rhoptrotrichia recurvata*. (Pl. IX. figs. 10, 10 *a*.)

Callopistria recurvata, Moore, Descr. Lep. Ind. Atk. ii. p. 144 (1882); Lep. Ceyl. iii. p. 60, pl. cli. fig. 1 (1884).

Ceylon, Java, Jubbulpore, New Hebrides. Coll. B. M.

Rhoptrotrichia argyrosticta.

Periyea? argyrosticta, Butler, Trans. Ent. Soc. 1881. p. 177.

Tokio. Type Coll. B. M.

The type specimen is in poor condition, the fringes being lost and the antennæ broken; but the right antenna is sufficiently perfect to show that the species belongs to this genus.

Eriopus granitosa, Guen. Noct. ii. p. 295, from North America, and *Eriopus ganga*, p. 293, locality unknown, are not known to me.

Phalæna-Noctua juventina, Cramer, Pap. Exot. iv. pl. cccc. N, from Surinam, is not in the Museum collection; it may be a *Callopistria*.

Callopistria roseitelum, Walker, Lep. Het. xii. p. 864, from the Congo, is *Methorasa Latreillei*.

Walker described the two following in Mr. Saunders's collection:—

Callopistria ventralis, Journ. Linn. Soc. vii. p. 64, from Borneo.

Callopistria vittata, Lep. Het., Suppl. 3, p. 811, from Brazil.

The following have also been described or figured:—

Eriopus elegantulus, Herrich-Schäffer, Corr.-Blatt zool.-min. Ver. Regensb. 1868, p. 117. From Cuba.

Eriopus Doleschalli, Felder, Reise der Nov., Lep. 4, pl. cxi. fig. 14 (1874). From Amboina.

Eriopus Wallacei, Felder, *l. c.* fig. 26. From Amboina.

Eriopus decumana, Felder, *l. c.* pl. cx. fig. 25. Brazil.

Eriopus miranda, Saalmüller, Ber. senck. Ges. 1879–80, p. 273. From Nossi-Bé.

Methorasa Thwaitesii, Moore, Lep. Ceylon, p. 61, pl. cli. fig. 2.

Eriopus reticulata, Pagenstecher, JB. nass. Ver. xxxvii. p. 226, pl. vi. fig. 7 (1884). From Amboina.

Eriopus jamaicensis, Moeschler, Abh. senck. Ges. xiv. p. 52 (sep. pag.), pl., fig. 24 (1886). Jamaica.

Eriopus venus, Staudinger, Stett. ent. Zeit. xlix. p. 253 (1888). From Amur-land.

Eriopus albolineola, Graeser, Berliner ent. Zeit. xxxii. p. 337 (1888). Amur.

Callopistria mexicana, Druce, Biol. Centr.-Amer., Het. p. 323, pl. xxx. fig. 1 (1889).

Callopistria panamensis, Druce, *l. c.* p. 324, pl. xxx. fig. 2 (1889).

Without examining specimens of the above I cannot venture to refer them to their proper genera; with regard to Felder's species, which are figured, they are neither related to one another nor have they any affinity to *Callopistria*.

The genus *Lineopalpa*, Guen., from Java, has no connexion with *Callopistria*, but is allied to *Amphigonia*.

EXPLANATION OF PLATE IX.

Figs. 1, 1 *a*. Legs and antennæ of *Gnamptocera minuta*.
Fig. 2. Legs of *Methorasa Latreillei*.
Figs. 3, 3 *a*. Legs and abdomen of *Haploolophus mollissimus*.
Fig. 4. *Dissolophus aluensis*.
Fig. 5. Legs of *Dissolophus repletus*.
Fig. 6. Legs of *Hyperdasys exotica*.
Fig. 7. Legs of *Hemipachycera rivularis*.
Figs. 8, 8 *a*, 8 *b*. *Cotanda indica*, antenna and legs.
Figs. 9, 9 *a*. Legs and antennæ of *Callopistria purpureofasciata*.
Figs. 10, 10 *a*. Legs and antennæ of *Rhoptrotrichia recurvata*.

VIII.—*Descriptions of Four new Species of Butterflies from South-west Madagascar, captured by Mr. J. T. Last, in the Collection of H. Grose Smith.* By H. Grose Smith.

Papilio morondavana.

Anterior wings narrower, more curved on costal margin and more concave on outer margin than in *P. demoleus*, Linn., and *P. erithonioides*, Grose Smith. Posterior wings of both sexes with a tail $\frac{1}{4}$ inch long.

Male.—Upperside. Anterior wings with markings very nearly as in *erithonioides*, the basal third being densely irrorated with stramineous scales in lieu of the small spots or lines of the same colour arranged in nearly parallel rows in *erithonioides*. Posterior wings with the subbasal stramineous band broader than in *erithonioides*, and on the costal margin extending rather broadly round the subapical ocellus, the outer part of the band between the costal and subcostal nervures being brightly ferruginous; the spots in the submarginal row are smaller and less lunulate outwardly, and the black spot at the lower end of the rufous anal spot of *erithonioides* is absent, the rufous spot of *morondavana* being rounder and paler; the space between the submarginal row and the band is more densely irrorated with stramineous scales.

Underside resembles *erithonioides*, but is paler. On the anterior wings the longitudinal stramineous bars at the base are confluent and less elongated than in *erithonioides*; the space